

and also, that all who had observed the disease during the present or in former epidemics agree that it is not contagious. He remarked, further, that the notion of its affiliation with influenza had no further ground than the asthenic diathesis common to the two affections, and to all others prevailing simultaneously with them. He also contended that "spotted fever" is an inappropriate designation for a disease in which a majority of the patients present no spots at all, and that it is, in reality, an epidemic cerebro-spinal meningitis of a typhoid type.

1864, April 6. *Cases of Spotted Fever.*—Dr. LEVICK reported the following cases of spotted fever:—

C. R., æt. 5½ years, residing at 324 Julianna Street, a patient of Dr. Fricke, to whom I am indebted for notes of the case, was in ordinarily good health on the 26th of February. At 5 o'clock A. M. of the 27th, he complained of violent pains in the head, back, limbs, and especially about the knees. He had fever, great thirst, and vomited freely after taking anything. Dr. Fricke saw him at about 9 A. M., when his face was rather flushed, pulse 120, pains severe, red spots, not of a bright colour, under the epidermis, principally on the lower extremities and abdomen. Ordered acetate of ammonia. At 10 the child was in a profuse perspiration, very feeble pulse, 144, extreme pain in the head, back, and limbs, with great tenderness of the surface. I saw him with Dr. F. an hour later; the skin was now cold and mottled, pulse scarcely to be counted, and shattered, numerous petechiæ on the limbs and abdomen. Dr. Fricke had ordered him carbonate of ammonia gr. j every hour, with milk punch. Carbonate of ammonia gr. ij, alternately with five drops of oil of turpentine, and an enema of two teaspoonfuls of turpentine, were now given him, the punch continued as before, turpentine applications to be made to the surface of the body. At 3½ P. M. the child was rapidly becoming unconscious, pulse 144, the eyes injected. At 8 P. M. semi-conscious, though restless, head much retracted; treatment as before, and three grains of quinine every hour, until nine have been given. 28th, 9 o'clock A. M. The child a little more conscious, pulse 144, very weak, had taken sixteen grains of sulphate of quinia since last visit, in addition to the turpentine and brandy. Dr. Fricke writes: "I may here state that the child took nearly one pint of strong brandy in milk punch, daily, for three and a half days." Treatment continued; the quinine to be given in doses of two grains every three hours. 29th, 9 A. M. Pulse 100, head still retracted, though less so than yesterday, nearly unconscious, but may be roused, grinds his teeth. 7 P. M. More conscious and seemingly better; the spots, which have been pretty freely distributed on the legs, abdomen, and arms, are beginning to fade, excepting those of large diameter. March 1st, 9 A. M. The child is conscious, though grinding his teeth, head still somewhat retracted; treatment continued, and a turpentine enema in the afternoon, and a hot bath at night. 2d, 9 A. M. Pulse 96, had a good night's rest, though at times somewhat delirious; treatment continued. 3d. Pulse 84; child asked for nourishment; movement of head and neck still painful; treatment continued. 5th. Turpentine omitted, as mouth is vesicated, no strangury at any time; continue quinia, five grains daily. 6th—13th. Child took a little mineral acid, and beef-tea, the chief nourishment which he has had during his illness. Complaining of severe pain in the head, and having previously suffered from abscess of the ear, warm applications were made to the head and a silk oil-cloth cap applied. This

was followed next day by a copious discharge from the ears to the great relief of the little patient. 13th—19th. Some headache and stiffness of the muscles of the neck continue, has a little diarrhœa, had not slept for two or three nights, and on the 19th took gr. $\frac{1}{8}$ of sulphate of morphia. 20th. Slept well. 21st. The child has taken no medicine during the day for some time, and appears to be convalescent.

After this I ceased to visit the little patient, who steadily improved, regained his entire consciousness, played with his toys, and partook of his food at the family dinner table. The petechiæ and all acute symptoms of his disease had disappeared. Quite recently I have seen him with Dr. Fricke, and find him confined to bed again, in a dull, semi-stupid condition, roused with difficulty, without paralysis of either extremity, much emaciated, and presenting much the appearance of tuberculous disease, of which there is no positive evidence, though several members of his family have died of this affection.

Through the kindness of Dr. Fricke, I was called to visit a little child, residing on Callowhill Street near Fifth Street. This little patient, eighteen months old, was perfectly well on retiring to rest on the previous night. At 1 o'clock she awoke and complained bitterly of her head. At 9 A. M. she presented the following appearance: The skin uniformly and finely mottled, of a purple hue, with here and there a few isolated spots of a deeper purple. Eyes slightly ecchymosed, presenting a dull, stupid, and at times an astonished appearance; pulse 60. Carbonate of ammonia given, and the hot bath and turpentine used externally. Child died at 3 P. M. of the same day. The autopsy was most carefully made at 4 P. M. next day, by Dr. Packard, in the presence of Dr. Fricke, Mr. J. C. Warren, and myself, and presented the appearances enumerated below.

Exterior.—Decomposition of the walls of the abdomen, which are of a green colour. The surface of the body universally mottled; vibices on the knees, petechiæ on the legs. *Head.*—On removing the calvaria a large ecchymosis was found under the pericranium near the sagittal suture. The vessels of the dura mater were filled with dark fluid blood, which could readily be pushed aside by the handle of the scalpel. The substance of the brain and of the medulla oblongata was natural in its appearance and consistence. There was no effusion in the ventricles, and the most careful examination failed to detect the slightest evidence of inflammatory exudation. *Abdomen.*—Blood fluid in the mesenteric veins. The intestines were everywhere dotted with minute extravasations of blood, both on their outer and inner surface. Similar ecchymoses were found on the bladder, in the kidneys, and on the diaphragm. *Spleen* healthy, the Malpighian bodies prominent. *Mesenteric glands* enlarged; the solitary glands largely developed, Peyer's glands unaffected. *Thorax.*—Ecchymoses on the diaphragmatic pleura. The lungs contained large quantities of fluid blood. The left ventricle of the heart contained two soft coagula about the size each of a pea. In the right heart the blood was thin and fluid, looking not unlike claret wine. There were no coagula in the right side.

A brother of this child, aged eleven years, was seized at the same time, and under the same circumstances as the case just reported. At 9 A. M. of the 6th ult., the condition presented was much the same as that of the infant, excepting that the petechiæ were more distinctly developed. Ammonia, turpentine, internally and externally, were prescribed as before. At 5 P. M. the boy appeared to be moribund, pulse scarcely to be felt, skin cold; patient almost comatose. Although the case was regarded as a hopeless one, it was determined to give three grains of quinia, to be re-

peated every hour until fifteen grains had been taken. At our visit next morning, much to our surprise, not only was our patient alive, but his consciousness restored and pulse almost natural. The quinine in doses of two grains every two hours with oil of turpentine gtt. v, every second hour, and phosphoric acid and brandy were now given. Under this treatment the patient greatly improved, though at times delirious, gave rational responses, and appeared to be convalescent. Great irritability of stomach supervened, rendering it impossible to give him medicines, and on the fourth day of his illness he died apparently of pure exhaustion, having had no paralysis, and retaining his consciousness to the last. In consequence of the great distress of the parents, no autopsy could be obtained.

A brother of this boy was suddenly seized on the second day of his illness with a chill, severe pain in the head and back, with universal aching and soreness of the muscles, leading us to fear that he, too, was suffering from the same disease as that of his brother and little sister. He was at once put on the free use of quinia and brandy, and in a few days was well again, his disease having ended in an attack of angina with some diphtheritic deposit. An older sister at the same time was seized with similar symptoms, and, under similar treatment, her disease terminated, after a few days, in an attack of catarrhal fever.

March 16, 1864, I was called by Dr. Fricke to visit H. S., æt. three years, residing in Rawle Street. He had been entirely well until the preceding evening; during the night he complained of severe headache with nausea, and vomited freely. Dr. F. saw him at 4 P.M. next day, at which time his pulse was 146 and shattered; there was great depression of the system, and the surface was pale. There was slight injection of conjunctiva, and severe pain in the calf of the left leg. At nine o'clock next morning, when I first saw him, his condition was much that already described, the tongue was moist and creamy, there was slight strabismus, and there were several vibices about the knees, and numerous petechiæ on the left side of the face near the eye, with a few well-marked petechiæ on the leg. There was general soreness of the muscles, especially of the calf. Dr. Fricke had already given him gtt. v ol. terebinth. alternating it with phosphoric acid every hour. Flying sinapisms had been applied to the surface, and an enema of a teaspoonful of oil of turpentine given three times during the afternoon and night. 17th. Head much retracted; pulse 120; had been very restless during the night. One ecchymosis was now noticed beneath the conjunctiva, skin warmer, pupils not affected. Had taken brandy freely; now ordered quinia in grain doses every two hours. 18th. Very restless, grinds his teeth, head strongly retracted, muscles of the neck rigid, pulse 120. Had taken since our last visit four ounces of brandy, four grains of quinine, and turpentine as before. 19th. Spots fading, pulse 120 with some volume; has taken same quantity of quinine and brandy, with beef-tea, as during the preceding twenty-four hours. Had also one-eighth of a grain of morphia at bedtime. Eyes much injected. Thinking him to be over-stimulated, it was ordered that the quantity of brandy administered should be diminished. 20th. Pulse 84, but very weak, his father having failed to give him any brandy; had been very restless during the night until he had taken fʒij sol. sulphate of morphia. Resume the brandy, ordered an enema of turpentine, and three grains of quinine daily. 28th. Pulse 96, no retraction of the head, spots nearly gone. From this time convalescence could be dated, and though there were one or two partial relapses the little patient has since improved, and is now running about again.

It will be noticed that the treatment resorted to in the cases reported, and which appears to have been to some extent successful, was the early exhibition of large doses of sulphate of quinia, brandy, and the oil of turpentine, the latter given by the mouth, the rectum, and applied externally. In addition to this, care was taken to sustain the temperature by the use of artificial heat, in other words, the treatment was an actively stimulating one. In one of the cases referred to, a boy five years old took in one day sixteen grains of quinine and nearly a pint of brandy. But while I believe that our hope of success is to be found in the free exhibition of these remedies, and that we are not to be deterred from their use by the existence of delirium, stupor, or even coma, I do not believe that it is desirable to continue the exhibition of these enormous doses of quinine for any great length of time. Let the system be decidedly affected by the medicine, and after this let the dose be gradually reduced until it be in the quantity usually regarded as that sufficient to keep up a moderately tonic influence. On the other hand, it is well to be aware that there exists a tendency to a recurrence of this disease, not indeed to its full development again, but a tendency to slip back to a typhous condition of system which it is highly important to guard against, and which is best averted by a return for a time to full doses of quinine.

When the subject was under discussion last spring, Drs. H. Hartshorne and Condie called the attention of the College to the close correspondence which exists between "spotted fever" and the epidemic cerebro-spinal meningitis described by the French and Irish writers, an account of which may be found in most of our recent works on the practice of medicine. At the last meeting of the College Dr. Stillé gave us some interesting remarks on the same subject. I do not doubt that the correspondence referred to does exist, nor do I doubt that there may be in many cases of spotted fever, especially when it assumes the chronic form, inflammation of the meninges of the brain and spinal cord, but that this is necessarily present, constitutes the essence of the disease, I do not believe. In scarlet fever we have almost uniformly inflammation of the throat, but no one looks upon scarlatina as mere angina; in measles we have coryza and catarrh, but rubeola is not simply inflammation of the air-passages. Still more strikingly there are in typhoid fever inflammation and ulceration of Peyer's glands with suppuration of those of the mesentery, but certainly no one regards this fever as simply meso-enteritis. These are concomitants, frequent concomitants of these diseases, local manifestations of a general constitutional disorder, which may be present or may be absent. So with spotted fever. That this is not simple cerebro-spinal meningitis is proved by the fact that though present in some cases, in others all traces of intracranial inflammation have been absent, and this too when all the other phenomena of the disease have been characteristically developed. Nor are the remedies which have been found most useful in spotted fever those which are recognized as suited to inflammation of the brain or its meninges. The testimony which comes to us from almost every quarter, with astonishing unanimity, is that bloodletting, mercury, and other familiar antiphlogistic measures are utterly inefficient, are indeed worse than useless, while the only medicines, the exhibition of which has been attended with any success, are quinia, brandy, and turpentine, the remedies everywhere recognized as those suited to the typhous state. Tried thus by the therapeutic test the disease fails to hold its position as one of pure inflammation, unless indeed we abandon all our former standards of pathology and of treatment. Hence it is that the name cerebro-spinal meningitis is an objectionable one, as giving erroneous im-

pressions as to the nature of the disease, and as leading to an injudicious and dangerous course of treatment. It would seem preferable, therefore, for the present at least, to adhere to the name of "spotted fever," which, though open to many objections (not the least of which is the danger of thus confounding the disease with maculated typhus), is the name by which it has been known for more than fifty years. For spotted fever is no new disease. The medical literature of the first twenty years of this century, especially that of the New England States, is replete with information respecting it. Accurate descriptions of its symptoms and of its *post-mortem* appearances, corresponding in both these respects with those of the present day, are given by Drs. Miner, Gallup, and many other writers. In fact these physicians appear to have been as familiar with spotted fever as we of the present generation are with typhoid and typhus fevers.

If then this disease be not simple cerebro-spinal meningitis, what is it? I believe it to be, as I have elsewhere expressed it, a malignant febrile disorder, due to a widespread epidemic influence, which acts with intensity on the blood directly, or indirectly through the nervous system. Thus poisoned, the blood is altered in its nature and in its function. Hence follow deranged innervation, impaired nutrition, passive congestions, escape of blood into various tissues, delirium, coma, prostration, and death, the usual results of septicæmia. So far as I can discover, in every autopsy of this disease on record the blood has been found to be fluid, both in the heart and great vessels, or if coagula have been found in the heart they have been small and soft.

More than a year ago, when the account of this disease was first given to the College, I ventured to inquire if the cases thus reported might not be but illustrations of a *malignant form* of the epidemic influenza which was then prevailing in our midst. I was led to make this inquiry by reasoning from analogy, and by noting that the symptoms of spotted fever, as then first given us, were those of influenza greatly exaggerated—if I may so express myself, intensified. I had then seen no cases of this disease, in fact was not aware that such a disorder as spotted fever had ever before prevailed. Observation has since shown me that the two diseases, during the last two years, have uniformly prevailed together in our community, and that in more than one instance, while one member of a family has suffered from the one, other members of it have suffered from the other form of disease. Research has proved that this coexistence has been the case from the earliest times. I believe that there exists an adynamic or typhous epidemic influence extending widely over our country; that this influence, in its mildest manifestation, exhibits itself in the form of influenza or epidemic catarrhal fever, in its most intense degree in the disease known as spotted fever, while between these two extremes are different grades of disease, differing not only in severity, but in their phenomena. I believe that the symptoms vary as the force of the disease is expended, especially on one tissue or organ rather than another; that in one instance we may have simple irritation of the air-passages, as seen in the *epidemic catarrhal fever*; in another the lungs may be especially involved, exhibiting the phenomena of epidemic *typhoid pneumonia*; in another the brain and spinal cord, presenting the symptoms of *cerebro-spinal meningitis*; while in some rarer cases the blood itself appears to be greatly affected, without presenting at once the obvious phenomena of disease of any special organ. I believe that these are all but varied manifestations of one and the same morbid influence, and that the same principles must guide us in the treatment of them all. It is to the constitutional affection, and not to

the mere local disorder, that our remedies must be addressed. It is worse than useless to treat these incidental inflammations as ordinary idiopathic phlegmasiæ, and I cannot but believe that our main reliance in the treatment of all these morbid phenomena must be placed in the free exhibition of quinine, brandy, and turpentine.

Spotted Fever.—Dr. D. GILBERT said that he had listened to the reports read and remarks made with great interest. He had seen numerous cases during the last year in consultation, and had three cases in his own practice. He had been called to meet Drs. Service and Wilson, of Schuylkill Falls, when the disease first appeared there in Feb. 1863. He subsequently saw cases with Dr. Wm. Corson, of Norristown, and more recently with Dr. Senderling, of Richmond St., Dr. Cooper, of Arch St., Dr. Knight, of Vine St., in this city, and Dr. Knorr, of Kensington. These cases were all characterized by the symptoms which have been so well described this evening. A large majority of them terminated fatally in from twelve to seventy-two hours after the onset of the disease. Dr. G. stated that cases very similar, and probably identical with this terrible malady, had come under his observation at different periods within the last twenty years. He remembered two cases which occurred in Gettysburg, in the practice of the late Dr. C. N. Berlucchy, of that place, in 1844, or thereabout, in both of which there was sudden attack by chill, great depression of the vital powers, with cerebro-spinal complication, stupor, coma, and death, the first in twelve, and the second in sixty hours. Another case occurred about sixteen years ago in this city, in the practice of Dr. Fricke, in the person of an adult male, who died in ten hours after the first symptoms were observed. In this there was a *post-mortem* examination. The most remarkable condition developed was the spotted appearance of all the serous surfaces of the chest and abdomen. About three years ago he was requested to meet Dr. R. J. Levis, of this city, in consultation, in the case of a child aged about five years, in a family in Marshall St. Another child, aged about three years, in the same family, had just died, after some twelve hours' illness, and the case now under treatment was similarly attacked. In both, there was sudden seizure by chill, followed by imperfect reaction, delirium, stupor, sinking, and death. A few days afterwards a child in another branch of the same family, living in the same neighbourhood, was attacked, but there was a more perfect reaction after the chill. The disease first seemed to localize itself upon the viscera of the chest, then of the abdomen, and finally on the cerebro-spinal region. The eruption appeared indistinctly on the third day. The general suffering was intense; there was soreness in all parts of the body, and the writhing and irrepressible contortions of the body and limbs were frightful. This case recovered. These cases occurring sporadically, and prior to the late epidemic, could not be classified with any of the commonly known diseases, and were considered by all the medical gentlemen who saw them as rare and anomalous.

Of the cases which Dr. G. had in his own practice since the first outbreak of the epidemic in the suburban districts of this city, the first occurred in March, 1863. The patient, aged about thirty-four years, is an attorney of high position in this city. The attack was characterized by the usual symptoms, the spots appearing on the second day. The delirium was present during the night, and the pain in the head and extremities was intense, without any intermission. In this case, the stupor and coma were not so profound as they are usually met with in the more violent cases. After reaction was fully established, to relieve the cerebro-spinal